



Effects of Trigger Point Dry Needling in Conjunction with Intramuscular Electrical Stimulation for a Patient with Lumbar Radiculopathy: A Case Report

Mayur V. Patel, SPT and Todd Bourgeois, PT, DPT, PhD, OCS, MTC, FAAOMPT

PURPOSE:

Low back pain, is a prevalent issue which affects 60-80% of people worldwide.¹ A common cause of back pain can be from nerve root involvement, disc herniation, or even myofascial pain syndrome which can cause trigger points that can even mimic a disc herniation.^{2,3}

The purpose of this case was to see the benefits of Trigger Point Dry Needling in conjunction with Intramuscular Electrical Stimulation for the treatment of lumbar radiculopathy regarding the range of motion, strength, sensation, reduction of pain, improve functional ability, and quality of life.

CASE DESCRIPTION:

BODY STRUCTURE

Decreased:
• Range of motion
• Lower Extremity Strength

ENVIRONMENTAL FACTORS

• Married
• Mechanic
• Father

ACTIVITY LIMITATIONS

- Unable to ambulate longer than 5 minutes
- Unable to engage in sexual activity with spouse
- Unable to sleep longer than 2 hours

PARTICIPATION

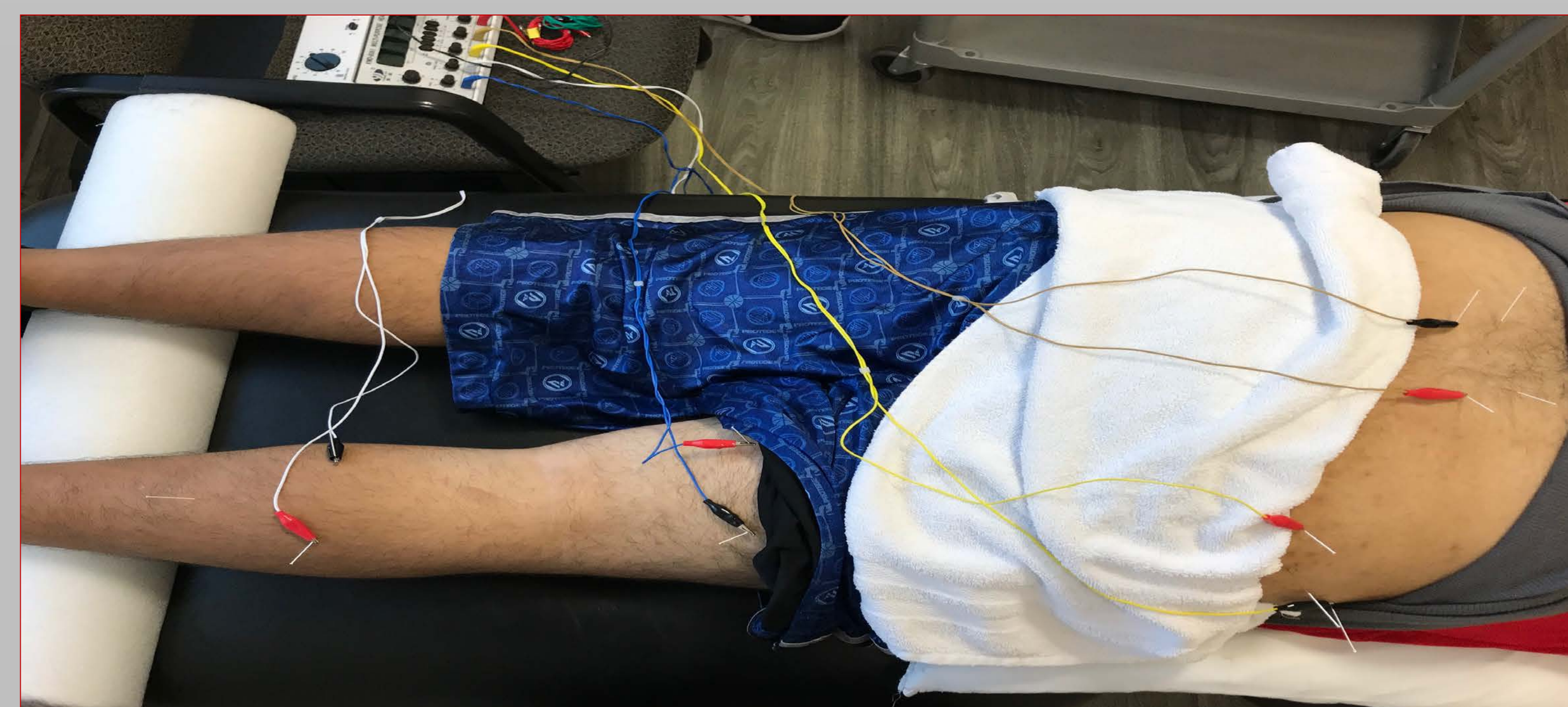
Wants to participate in:
• Ambulating with wife
• Playing with kids
• Work as mechanic

PERSONAL FACTORS

• 32 years old
• Male

METHODS:

| Visit #1 |
|--|
| Anti-Gravity Treadmill x10 minutes at 70% body weight |
| 3x10 second static stretching to bilateral hamstrings and gastrocnemius muscles |
| x10 mini squats |
| Dry needling to bilateral lumbar multifidus, right gluteus medius, piriformis, both heads of hamstrings, and both heads of gastrocnemius with electrical stimulation |
| HEP: Rest and glute squeezes |
| Visit #2 |
| Anti-Gravity Treadmill x10 minutes at 80% body weight |
| 3x10 second static stretching to bilateral hamstrings and gastrocnemius muscles |
| x12 mini squats |
| Dry needling to bilateral lumbar multifidus, right gluteus medius, piriformis, and both heads of hamstrings with electrical stimulation |
| HEP: Rest and glute squeezes |
| Visit #3 |
| Anti-Gravity Treadmill x10 minutes at 90% body weight |
| 3x10 second static stretching to bilateral hamstrings and gastrocnemius muscles |
| x14 mini squats |
| Dry needling to bilateral lumbar multifidus, right gluteus medius, and piriformis with electrical stimulation |
| HEP: Rest, glute squeezes, and mini squats |
| Visit #4 |
| Treadmill with 100% body weight x5 minutes |
| 3x10 second static stretching to bilateral hamstrings and gastrocnemius muscles |
| x16 mini squats |
| Yellow thera-band lateral walks 3x10 reps |



RESULTS:

Upon completion of 4 visits over 2 weeks:

| Assessment | Initial | Post |
|-----------------------------------|-------------------------|-------------------------|
| Lower Extremity Functional Scale: | 22.5% Physical Function | 93.8% Physical Function |
| Oswestry Disability: | 60% Disability | 18% Disability |
| Straight Leg Raise: | 25 Degrees | 90 Degrees |
| Pain: | 7/10 | 0/10 |

CLINICAL APPLICATION:

Traditional interventions for this diagnosis include strengthening exercises, modalities such as transcutaneous electrical stimulation, and even surgery as a last resort. There is limited research available regarding Trigger Point Dry Needling in conjunction with Intramuscular Electrical Stimulation for lumbar radiculopathy.⁴ This case report supports the idea that this physical therapy treatment intervention has positive outcomes in a short duration improving quality of life and functional ability.

REFERENCES:

